

What is claimed is:

- 1 1. A method comprising:
2 determining whether execution of an instruction of a
3 first thread may require a long latency; and
4 switching to a second thread if the instruction may
5 require the long latency.

- 1 2. The method of claim 1, further comprising
2 executing at least one additional instruction in the first
3 thread while preparing to switch to the second thread.

- 1 3. The method of claim 1, wherein the determining is
2 based on a stochastic analysis of whether the instruction
3 will result in a long latency.

- 1 4. The method of claim 1, wherein the determining
2 comprises applying the instruction to a lookup table in a
3 processor pipeline.

- 1 5. The method of claim 4, further comprising
2 providing a feedback signal from an instruction decoder to
3 an instruction fetch unit to switch to the second thread.

- 1 6. The method of claim 1, wherein the long latency
2 comprises less than ten processor cycles.

1 7. The method of claim 1, further comprising
2 switching back to the first thread.

1 8. A method comprising:
2 switching from a first thread to a second thread if a
3 condition that may result in a stall of a processor
4 pipeline occurs during execution of the first thread in the
5 processor pipeline.

1 9. The method of claim 8, further comprising
2 determining whether the condition occurs by comparing an
3 instruction to entries in a lookup table.

1 10. The method of claim 8, further comprising
2 executing at least one additional instruction after the
3 condition occurs and before switching to the second thread.

1 11. The method of claim 8, wherein the condition is
2 based on a stochastic model.

1 12. The method of claim 8, further comprising
2 providing a feedback signal from an instruction decoder to
3 an instruction fetch unit to switch to the second thread.

1 13. An article comprising a machine-readable storage
2 medium containing instructions that if executed enable a
3 system to:

4 switch from a first thread to a second thread if a
5 condition that may result in a stall of a processor
6 pipeline occurs during execution of the first thread in the
7 processor pipeline.

1 14. The article of claim 13, further comprising
2 instructions that if executed enable the system to
3 determine whether the condition occurs by comparing an
4 instruction to entries in a lookup table.

1 15. The article of claim 13, further comprising
2 instructions that if executed enable the system to execute
3 at least one additional instruction in the first thread
4 while the system prepares to switch to the second thread.

1 16. The article of claim 13, further comprising
2 instructions that if executed enable the system to send a
3 feedback signal to cause the switch from the first thread
4 to the second thread.

1 17. An apparatus comprising:
2 a processor pipeline having a feedback loop to provide
3 a feedback signal to cause the processor pipeline to switch

4 from a first thread to a second thread, the feedback signal
5 to originate from a location in the processor pipeline
6 before instruction execution.

1 18. The apparatus of claim 17, wherein the feedback
2 signal is coupled between an instruction decoder and an
3 instruction fetch unit.

1 19. The apparatus of claim 18, wherein the
2 instruction decoder is coupled to provide the feedback
3 signal to the instruction fetch unit when a predetermined
4 condition occurs.

1 20. The apparatus of claim 19, wherein the
2 instruction decoder includes logic to determine when the
3 predetermined condition occurs.

1 21. The apparatus of claim 19, wherein the
2 instruction decoder includes a lookup table that includes a
3 list of predetermined conditions.

1 22. A system comprising:
2 a processor pipeline having a feedback loop to provide
3 a feedback signal to cause the processor pipeline to switch
4 from a first thread to a second thread, the feedback signal

5 to originate from a location in the processor pipeline
6 before instruction execution; and
7 a wireless interface coupled to the processor
8 pipeline.

1 23. The system of claim 22, further comprising at
2 least one storage device to store code to enable the
3 processor pipeline to switch from the first thread to the
4 second thread if a predetermined condition occurs during
5 execution of the first thread.

1 24. The system of claim 23, wherein the at least one
2 storage device includes code to enable the processor
3 pipeline to execute at least one additional instruction in
4 the first thread while the system prepares to switch to the
5 second thread.

1 25. The system of claim 22, wherein the feedback
2 signal is coupled between an instruction decoder and an
3 instruction fetch unit.

1 26. The system of claim 25, wherein the instruction
2 decoder is coupled to provide the feedback signal to the
3 instruction fetch unit when a predetermined condition
4 occurs.

1 27. The system of claim 26, wherein the instruction
2 decoder includes logic to determine when the predetermined
3 condition occurs.

1 28. The system of claim 26, wherein the instruction
2 decoder includes a lookup table that includes a list of
3 predetermined conditions.

1 29. The system of claim 22, wherein the wireless
2 interface comprises a dipole antenna.